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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,799	12/13/2004	David K.Y. Low	57765US004	8965
32692 7590 07/23/2009 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER DANIELS, MATTHEW J				
ART UNIT 1791		PAPER NUMBER		
NOTIFICATION DATE 07/23/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/517,799

Applicant(s)

LOW ET AL.

Examiner

MATTHEW J. DANIELS

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2009.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 3-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/CIS)
4) ☐ Interview Summary (PTO-413)
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____
Paper No(s)/Mail Date 12/29/08

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1 and 3** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Warner (WO 00/69594). **As to Claims 1 and 3**, Warner teaches a process for providing a hole into a component having an internal cavity which could be used as a valve stem comprising providing an article with a passageway (28), and filling the passageway with a fluid (page 3, lines 8-26), and laser drilling a side port (page 8). The use of a stationary fluid in that passage, as disclosed by Warner (page 3, lines 19-23) has been interpreted to inherently require a step of sealing the fluid within the cavity and unsealing the outlet to remove the fluid. However, in the alternative, it would have been obvious to one providing a stationary fluid in the passage to provide a seal to avoid leaking of the fluid from the passage to provide a seal to prevent such leakage, and to remove the seal upon completion of the drilling of the holes.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1 and 3-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alband (WO 99/55600) in view of Warner (WO 00/69594). **As to Claim 1**, Alband teaches a valve stem component (Abstract) having an internal cavity (Figs. 2 and 3) and a method comprising the step of drilling a hole through the component into the internal cavity (page 14, lines 23-24).

Alband is silent to the filling and sealing of a fluid within the cavity and laser drilling the hole.

However, Warner teaches placing a fluid in a passage, and sealing the fluid within the cavity would have been implicit or obvious in that the fluid remains stationary in the cavity ("fluid may remain stationary", page 3, lines 19-20). A hole is drilled using a laser (pages 6 and 7).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Warner into that of Alband because (a) Alband suggests a step of drilling a hole (page 14, lines 23-24) and Warner provides a process for drilling a hole, (b) Alband suggests a step of drilling a hole (page 14, lines 23-24), and Warner provides an alternative process for drilling holes such that one would have recognized the Warner process as an obvious substitute for the drilling process of Alband, or (c) the use of Warner's laser drilling process would produced an expected improvement over drilling with a mechanical drill because the evaporation and melting produced by the laser would minimize burr formation, and this improvement would have been obviously desirable in the Alband process.

As to Claims 3, 4, and 9, Alband teaches a method of manufacturing a valve stem (Abstract) comprising:

(a) providing a valve stem work-piece having a passageway with an outlet by thermoplastic injection molding (page 3, lines 17-18) or deep drawing a metal step (page 3, lines 15-16);

(d) drilling a side port through the workpiece into the passageway (page 14, lines 23-24).

Alband is silent to step (b), step (c), the laser drilling of step (d), and step (e).

However, Warner teaches placing a fluid in a passage, and sealing the fluid within the cavity would have been implicit or obvious in that the fluid remains stationary in the cavity ("fluid may remain stationary", page 3, lines 19-20). A hole is drilled using a laser (pages 6 and 7). Unsealing the article and removing the fluid would have been implicit since the article is subsequently used for its intended purpose.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Warner into that of Alband because (a) Alband suggests a step of drilling a hole (page 14, lines 23-24) and Warner provides a process for drilling a hole, (b) Alband suggests a step of drilling a hole (page 14, lines 23-24), and Warner provides an alternative process for drilling holes such that one would have recognized the Warner process as an obvious substitute for the drilling process of Alband, or (c) the use of Warner's laser drilling process would produce an expected improvement over drilling with a mechanical drill because the evaporation and melting produced by the laser would minimize burr formation, and this improvement would have been obviously desirable in the Alband process.

As to Claims 5 and 8, it is submitted that Alband provides articles with contours (Figs. 2 and 3), which would obviously be produced by thermoplastic injection molding as described above, and forming a passageway by drilling (page 13, lines 23-24). In combination with Warner, it would have been obvious to form the passageway and outlet by laser drilling as set forth above with respect to Claim 1. **As to Claim 6**, as an alternative to thermoplastic injection molding, Alband teaches cold forging (page 18, lines 13-15). **As to Claim 7**, Alband suggests cold forging (page 18, lines 13-15) a metal (page 5, line 7) valve stem (page 5, line 13) and forming the passageway and outlet by drilling (page 13, lines 23-24). **As to Claim 10**, Alband suggests inserting a plug or sealing device in the interior of the passageway (Fig. 2, item 46, page 12, lines 12-21) between the closed end and the side port and curling the outlet end inwardly (Fig. 2, item 42, page 10, lines 4-12). Any order of performing the disclosed process steps in combination with the formation of the hole of Tessier would have been obvious.

Response to Arguments

3. Applicant's arguments filed 24 April 2009 have been fully considered but they are not persuasive. The arguments appear to be on the grounds that (a) Warner does not disclose either a valve stem or sealing, and (b) the combination of Alband and Warner fail to teach sealing, while Alband relates to mechanical drilling.
4. The Examiner submits that Applicants have not set forth any definition or structural features which are distinct to a valve stem, or which suggest that a valve stem is distinct in shape or structure from the article of Warner. Therefore, the limitation is drawn merely to an intended use. but the article of either Warner or Alband is capable of fulfilling the intended use. With

respect to the sealing, the Examiner remains of the view that the stationary fluid is a sealed fluid, and in the alternative, that sealing would have been obvious over the stationary fluid of Warner. Applicants do not appear to point to any particular definition for the term, and it does not appear to be the case that the claimed sealing is for some additional purpose other than to restrain the fluid. In other words, the claimed step of "sealing" is not a step which materially changes or shapes the valve stem, but is merely used to restrain the fluid in a stationary position.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. DANIELS whose telephone number is (571)272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew J. Daniels/
Primary Examiner, Art Unit 1791
7/18/09